

**Patent claims:**

1. The use of a chemokine and/or of a nucleic acid encoding a chemokine for producing a pharmaceutical preparation.  
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2. The use as claimed in claim 1, wherein the pharmaceutical preparation is intended for recruiting mesenchymal, preferably local mesenchymal, precursor cells and/or stem cells for synthesizing tissues.  
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3. The use of a chemokine and/or of a nucleic acid encoding a chemokine for recruiting mesenchymal, preferably local mesenchymal, precursor cells and/or stem cells in vitro.  
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4. The use as claimed in claim 1, 2 or 3, wherein the chemokine is selected from the group consisting of  
20 CCL19, CCL21, CCL27, CCL28, CCL20, CXCL9, CXCL10, CXCL11, CXCL16, CXCL13, CXCL5, CXCL6, CXCL8, CXCL12, CCL2, CCL8, CCL13, CCL25, CCL3, CCL4, CCL5, CCL7, CCL14, CCL15, CCL16, CCL23, CX3CL1, XCL1, XCL2, CCL1, CCL17, CCL22, CCL11, CCL24, CCL26, CXCL1, CXCL2, CXCL3 and CXCL7.  
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5. The use as claimed in claim 4, wherein the chemokine is selected from the group consisting of  
30 CCL19, CCL21, CCL27, CCL28, CCL20, CXCL9, CXCL10, CXCL11, CXCL16, CXCL13, CXCL5, CXCL6, CXCL8, CXCL12, CCL2, CCL8, CCL13 and CCL25.
6. The use as claimed in claim 5, wherein the chemokine is selected from the group consisting of  
35 CCL19, CCL21, CCL27, CCL28, CCL20, CXCL9, CXCL10 and CXCL11.

7. The use as claimed in one of the preceding claims, wherein a mixture of chemokines is used.
- 5 8. The use as claimed in one of the preceding claims, wherein a chemokine fragment or a chemokine derivative which possesses the ability to bind to a chemokine receptor is used.
- 10 9. The use as claimed in one of the preceding claims, wherein the chemokine is a natural or synthetic chemokine.
- 15 10. The use as claimed in claim 1, wherein the nucleic acid encoding a chemokine in the form of RNA, DNA, cDNA or ssDNA.
- 20 11. The use as claimed in claim 1, wherein the nucleic acid encoding a chemokine is of natural or synthetic origin.
- 25 12. The use as claimed in one of the preceding claims, wherein the mesenchymal precursor cells are mesenchymal stem cells which are preferably recruited from the bone marrow.
- 30 13. The use as claimed in claim 1, wherein the pharmaceutical preparation is present in a form which is suitable for injection.
- 35 14. The use as claimed in claim 13, wherein the pharmaceutical preparation additionally comprises:
  - one or more suitable auxiliary substances,
  - one or more biologically degradable polymers,
  - at least one active compound which is selected from differentiation and growth factors and mixtures thereof,and mixtures of 2 or more of the above.

15. The use as claimed in claim 3 in combination with an active compound which is selected from differentiation and growth factors and mixtures thereof.
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16. The use as claimed in claim 14 or 15, wherein the differentiation and growth factors induce chondrogenesis or osteogenesis.
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17. A pharmaceutical preparation which comprises a chemokine as defined in one of claims 4 to 9.
18. A pharmaceutical preparation which comprises a nucleic acid as defined in claim 10 or 11.
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19. The pharmaceutical preparation as claimed in claim 17 or 18 which additionally comprises:
- one or more suitable auxiliary substances,
  - one or more biologically degradable polymers,
  - 20 - at least one active compound which is selected from differentiation and growth factors and mixtures thereof,
- and mixtures of 2 or more of the above.
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20. The pharmaceutical preparation as claimed in claim 17 or 18 which is present in the form of an injection solution, of fibrin adhesive, of a substrate for transplantation, of a matrix, of a tissue patch or of suture material.